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AGRICULTURAL EXTENSION TRAINING NEEDS OF THE NON-GOVERNMENT ADVISING SECTOR IN SOUTH AFRICA

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ABSTRACT

Extension practitioners from the private sector are highly trained in the Natural Science. Some shortfalls in their Extension Science training have been identified. Perceived training needs in the Extension Science within this sector have been privatised.

A number of possible training inputs and options are suggested. Options can be pursued by way of the Continuous Professional Development (CPD) models as already practiced by a number of Professions. Such investment can assist management with personnel evaluation. Credible and experienced seminar style (including capable retirees) would become involved in CPD programmes and as mentors within in-service training initiatives.

The private sector is becoming increasingly involved in the upliftment of the emerging agricultural sector. Many emerging farmers are seen as the Commercial Gardens of the future and are being empowered by their Extensionists to fulfil such roles.

The quality of the training cannot be compromised. Compromising education and training programmes is disadvantageous to the Extensionist but even more so to the disadvantage of the farming clientele.

Only 16.3% of the practicing agricultural Extensionist lack sufficient training in the Natural Sciences to register with the South African Council for Natural Scientific Professions (SACNASP). 43,5% of the field workers (80) are members of Learned Societies in the Natural Sciences, 12,5% are members of the South African Society for Agricultural Extension(SASAE) and only 6,3% are registered with SACNASP. Communication is considered as the most important Extension training module.

Keywords: Extension, training needs, Continuous Professional Development

1. INTRODUCTION

1.1 Background

The shortage of trained and experienced Agricultural Extensionists in South Africa has been the subject of much debate in recent years. The Department of Agriculture, Forestry and Fisheries (DAFF) has taken active steps to address the shortage of Extensionists in the country through the development and roll-out of its Agricultural Extension Recovery Plan in all nine provinces. While such a plan is a necessary first step in upgrading the country's extension service, a more systematic long-term intervention to ensure the continuous upgrading of Extension skills and knowledge also needs to be put in place given the rapidly changing techno-economic nature of agriculture (Tregurtha, 2008, as quoted by Terblanché, 2010).

There are today several non government extension advisory services delivering a service of excellence to their members and the following is some examples.

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Grain South Africa (GSA), a commodity organisation, is one of the organisations providing a specific extension advisory service through their Farmer development program executed by production advisors. The farmer development program is executed through individual contact with farmers, study groups, demonstration trails, farmer days and specific training courses (Grain South Africa, 2010).

TSB Sugar (2009) is a company providing an extension service to large, medium and small scale sugar cane producers in the Nkomazi region of Mpumalanga Province, South Africa. TSB have established a specific extension division (five extension officers and one manager) to support currently 1300 small scale cane growers. Main extension methods to transfer knowledge are by means of study groups, individual visits to farmers, farmer days and specific training programs presented to farmers. A number of extension officers from the provincial department of agriculture have been seconded to TSB and work in close cooperation with the TSB Extension officers.

The National Wool Growers Association (2011) indicated that the production advisors will use study groups, demonstration/monitor farms, farmer days and mass- media to communicate with wool producers and specifically to new farmers to increase productivity and profitability. Special attention will be given to farmers in the communal areas.

The South African Sugar Association (SASA) is an organisation that promotes the global competitiveness, profitability and sustainability of the South African sugar industry. The South African Research Institute (SASRI) has an extension service focussing its efforts on three spheres:

- Regional extension – service medium to large scale commercial growers
- Small-scale Grower Extension – a specialised service to small-scale growers
- New Freehold Grower Extension – growers vary from new medium to large scale growers who have acquires land through the land redistribution program (Maher, 2008:4).

According to Stones (2012: 23) the Subtropical Crops Extension and Advisory Service (Subtrop) consist of six extension advisors and the minimum recruitment criteria is a four year BSc Agric degree. Subtrop provides the following extension services to their members, organising study groups; writing of reports and articles, farm visits; processing technical enquiries; general enquiries and the development of government extension advisors.

It is in this regard that it has been proposed that agricultural extension be formally recognised as a profession, governed by a legal framework, requiring formal registration and continuous professional development (CPD). The DAFF formally recognised the need for professionalism in extension in 2005 when it published its' report titled the "Norms and Standards for Extension and Advisory Services in Agriculture".

The study revealed poor Extension: farmer ratios (including capacity shortfalls and constraints) and knowledge and skills shortfalls as key and critical issues in addition of others such as a lack of professionalism and commitment and an environment that is not conducive to efficient and effective service delivery.

There are currently two professional bodies where Agricultural Extensionists can register with namely the South African Council for Natural Scientific Professions (SACNASP) and

the South African Society for Agricultural Extension (SASAE) a voluntary body registered with SACNASP. A short description of each body is hereby presented.

1.2 The South African Council for Natural Scientific Professions

According to its webpage, the South African Council for Natural Scientific Professions (SACNASP) sets standards for registration and keeps a Register of Professional Natural Scientists. Professional registration identifies persons as highly skilled professionals with technical knowledge and competence.

Registration is open to all natural science professionals who can demonstrate competence to perform professional work to the necessary standards, and who are committed to:

- Maintain that competence;
- Work within professional codes; and
- Participates actively within the profession.

1.3 The South African Society for Agricultural Extension

The South African Society for Agricultural Extension (SASAE) has developed into a leading professional organisation enjoying international recognition in spite of not having a fully-fledged (full time) Research Institute to assist in the development of the Science of Agricultural Extension. Although the discipline is clearly more Human than Natural Scientific, its role in the promotion of Agricultural Development cannot be questioned. The development of Agricultural Extension as a Science rests in the hands of its academia and practicing field personnel.

One needs to differentiate between purely advisory and extension services. Advisory / consultancy services are practiced widely in (particularly) the commercial sector where professional advice (assistance) is offered on request. The respective farmer has become aware of a shortcoming and involves specialised know-how to solve the problem. In the case of Extension, the Extensionist identifies a problem and persuades the farmer (or a group of farmers) to respond appropriately.

1.4 Aim of the study

The aim of the study was to determine the following:

- Education and training level of practicing Extensionists in the private sector
- Shortcomings as perceived by supervisors/leaders of Extension personal
- Possible training priorities
- Possible training methods and incentives

2. THE RESEARCH PROCESS

A small task team comprising a representative (Me. D von Maltitz) from the Human Resource Development (HRD) Support Unit, in the Department of Higher Education, with Dr. S. E. Terblanché of the Department of Agricultural Economics and Rural Development of the University of Pretoria (and Board member of SASAE) and Dr. B. H. Koch, retired Regional Director (District Manager) of the Department of Agriculture of the Mpumalanga Province were tasked to plan the research process.

A desktop research of relevant documents was undertaken and a questionnaire was developed. The questionnaire was tested for its reliability with credible persons from the Extension fraternity. Thereafter interviews were conducted with key stakeholders who included the Extension Managers of 14 different institutions (13 of which from the private and semi-private sectors). The study was undertaken in 2011.

3. RESEARCH FINDINGS: THE PRIVATE AND SEMI-PRIVATE SECTORS

Agricultural Development is an initiative aimed at helping people to help themselves - i.e. helping people to change to their individual and/or group advantages (financially and/or otherwise). We know that people are inclined to become the victims of their own environments thus becoming pre-destined to endure hardships while sound and responsible development initiatives could hopefully alleviate or possibly remove such hardships. The (behavioural) change process begins with a state of awareness and (ideally) culminates with full adoption. Perceptions and knowledge play an important role in moving people forward once they have chosen to aspire towards the "new" objective. Perceptions, knowledge and aspirations are considered the primary intermediaries towards change. Unlearning (discarding) present (and often proven) practices and/or ideas could prove to be more difficult (for individuals) than learning new ones (Habtemariam & Düvel, 2003). Letting go of the old in favour of the new feels risky (insecure) resulting in many preferring not to change. One is at times faced with institutional or other changes that require personal adaptations (for which there are no perceived alternatives). For a Developer / Extensionist this could be an easier (more acceptable) route to follow i.e. to change an economic / social / political or other environment and allowing people to respond / adapt to such changes. Financial support systems, social grants, subsidies, performance awards, some form of legislation (such as compulsory registration) etc. fall into the "changed environment" grouping to which people respond voluntarily (or at times less voluntarily).

3.1 Representation and responses

As indicated above, a total of 13 private and semi-private institutions were chosen to participate. Interactions were directed by way of a structured questionnaire. A total of nine institutions responded through their representatives (of which four occupied senior management positions). Seven institutions (77, 8 percent) represented the private sector with the balance coming from Educational Institutions (Universities).

3.2 Education

Education and Training are fundamental requirements for sustainable agricultural development. This is true for the developer (extensionist) as well as his/her clients. The positive relationship between formal training and practice adoption (change) has been emphasized by many (Visser, 1966, p.23; Venter, 1980, p.7; Rogers & Shoemaker (1971, pp.354-356) and Bembridge (1975, pp.210-211). De Klerk (1979, pp.142-143) suggests that the length of training appears to be more decisive than its contents, suggesting that education and training develops conceptual abilities which are necessary to effectively co-ordinate and to plan. This view is shared by Emery & Oeser (1958, p.16). The total packages of qualifications spread over the 80 practicing Extensionists who are presently deployed within the organisations under discussion are reflected in Table 1.

TABLE 1 THE NATURE AND COMPOSITION OF TRAINING PACKAGES OF EXTENSION PRACTITIONERS: (2011)

Qualification categories	**Number of Extension practitioners** (including overlaps and with sub-totals in brackets)
A. Agricultural qualifications not recognized by The South African Qualification Authority (SAQA) and SERTEC (Certification of Technikon qualification)	
• In service training	2
Agricultural qualifications recognized by SAQA and SERTEC	
• Two year higher certificate	1
• Two year diploma	12
• Three year diploma	17
• Four year diploma	2
• Three year B. Sc in Agriculture	10
• Four year B. Tech Agric	5
• Four year B. Sc Agric	41
• Other	3 (93)
B. Extension qualifications	
• National Certificate in Extension (NQF6) (National qualification Framework 6)	1
• Extension modules completed in undergraduate agricultural training	6
• Advanced University Diploma in Agricultural Development and Rural Development (NQF6)	2
• B. Inst. Agrar. Hons (Extension)	2
• B. Sc Agric. Hons (Extension)	3
• Masters and Doctoral qualifications in Extension	1 (15)
C. **Skills qualifications** (Short courses registered with SAQA)	
• Technical Agricultural skills programmes	19
• Extension and related skills programmes	24
• Other (e.g. Computer literacy)	29 (72)
D. **Qualifications of field staff in basic Natural Sciences at post-Matric level** (e.g. Mathematics, Chemistry, Physics, Botany etc.)	
• One basic science	56
• Two basic sciences	4
• Three basic sciences	16
• Four or more basic sciences	- (76)

The data contained in Table 1 reflects the nature and composition of training packages of 80 Extension practitioners employed by nine (9) Private and Semi-Private Institutions. The figures suggest the following:

- 13 Fieldworkers (16,3 percent) have attained a two-year certificate or diploma qualification. At present these workers can be professionally registered with SACNASP at a level B category and they are actively pursuing developmental objectives;
- 41 practitioners (53,1 percent) have a 4-year B. Sc Agric qualification which, together with the relevant practical experience, are ideally qualified for registration as Professional Natural Scientists;
- Only 6 practitioners (7,5 percent) have an Honours or higher qualification in Extension. Only 15 out of a total of 80 (i.e. 18,8 percent) have had some formal exposure to the Extension disciplines, while 24 (30,0 percent) have participated in Extension and related skills programmes; and
- Basic Science qualifications show a good spread with 76 workers (95,0 percent) having had exposure to at least one basic science at post-Matric level. Only 20 practitioners (25,0 percent) have passed two or more basic science subjects at post-Matric level, these probable being well positioned for professional registration with SACNASP.

Although there are shortfalls in the Natural Science qualifications, the shortfalls in Extension training are far more significant. The logistics and costs involved to address these shortfalls and to train incoming (new) incumbents to the required level of excellence are staggering.

Learned Societies could play a role to at least sensitise practitioners to the above challenges (i.e. through targeted awareness programmes).

Follow-up responses indicated however that only 10 practitioners (12,5 percent) are registered as members with the SASAE, only five (6,3 percent) with SACNASP while 35 (43,8 percent) are registered with other Learned Societies.

3.3 Shortcomings as perceived by the leaders of Extension personnel

The question was passed to the leaders of Extension personnel concerning the minimum qualification deemed necessary (by them) for a field Extensionist to be productive/effective. Eight leaders responded (with one preferring to abstain). Their opinions were clear namely that they considered:

- Two years (or less) of training in Agricultural Extension to be sufficient (6 out of 8 or 75 percent); while
- Two years (or less) of training in the Natural (Agricultural) Sciences was considered unacceptable by seven out the eight respondents (i.e. 87,5%).

Follow-up question asked the respondents to rate the present training shortfalls in their field staff using a 4-point scale with “4” indicating the most serious shortcoming. (The 4-point scale was used to remove the “comfortable” central value of unevenly numbered scales.) The ratings were averaged (using arithmetic means) and revealed the following:

- The present Natural/Agricultural Science training.
  Average rating as shortcoming: 1,38

- The present Agricultural Extension training.
  Average rating as shortcoming: 3,25

These figures suggest that in spite of leaders being relatively modest in terms of the minimum training requirement in Agricultural Extension and in spite of quite a number of Extension practitioners having undergone formal training in Extension, the shortfall of Extension skills in the field are being perceived (by the leaders) as serious (i.e. falling within the fourth (top) quartile).

The above perceptions were substantiated when the same leaders rated the general working knowledge of their Extension staff as 3,4 (on average) for the Natural/Agricultural Sciences and as specialists of their wards (i.e. able to define the "Ten best practices" in their wards). In this case "4" was defined as the highest/most acceptable rating. For Extension Sciences the rating declined to a significantly lower rating of 2,25**.** Irrespective of how the question was asked, the responses suggest serious shortcomings in the training and practice of Agricultural Extension among field practitioners.

3.4 Possible training priorities

Extension training programmes have been researched and developed over many years in South Africa and elsewhere. Training programmes are offered in different packages and with different emphases by different training institutions. The training package outlined in Table 2 reflects a balanced and reasonable inclusive package of possibilities and (if need be) specialization. The Extension leaders/representatives were asked to rate the importance of academic knowledge within each speciality on a 4-point scale (with "4" as the most important). Their ratings were averaged and are presented as follows (ref. Table 2).

TABLE 2: THE IMPORTANCE OF ACADEMIC KNOWLEDGE WITHIN SPECIFIC SPECIALIZATIONS:

Speciality/Study material (module)	**Average rating on 4-point scale with "4" as the most important**
• Extension Philosophy, organization and management	3,20
• Communication	4,00
• Leadership and group dynamics	3,55
• Community development and rural sociology	2,44
• Extension evaluation	3,33
• Principles and approaches of development and extension	3,33
• Program and Project planning	3,22
• Adoption and Diffusion	3,55
• Development principles: Theory and practice	3,11

It is clear from the above that "communication" is considered of utmost importance, having attained the highest (and unanimous) rating by all respondents. "Community development and Rural sociology" and "Development principles: Theory and practice" are regarded as the least important. The latter could have been expected as the private (and semi-private) sectors have different (yet important) roles to play than the state. It will be interesting to compare the state Extension Service's ratings with the above. One could expect a different emphasis merely because of different working environments.

Everything falling within the fourth quartile (i.e. ratings of above 3,0) should be considered important for this sector.

Asking the respondents what modules they would include in a possible training package underlines (or further emphasises) what has been indicated above. Their opinions are set out in Table 3 (again excluding the one abstention).

TABLE 3: SUGGESTED CONTENT OF AN IN-SERVICE TRAINING PACKAGE FOR NON-GOVERNMENT EXTENSIONISTS:

Speciality/Study material (**module**)	**Number of respondents/leaders answering in the affirmation ("yes")**
• Extension Philosophy, organization and management	8
• Communication	8
• Leadership and group dynamics	7
• Community development and rural sociology	3
• Extension evaluation	7
• Principles and approaches of development and extension	6
• Program and Project planning	7
• Adoption and Diffusion	6
• Development principles: Theory and practice	2

As suggested by the previous findings (ref. Table 5.5) the modules "Community Development and Rural Sociology" and "Development principles: Theory and practice" are considered the least important. The modules:

- Communication;
- Extension Philosophy, organization and management;
- Leadership and group dynamics;
- Extension evaluation; and
- Program and project planning

should decidedly be included in such a training package. The identification of study material suggest the nature of challenges facing the field personnel of non-government extension services which can hopefully be addressed more effectively with the appropriate theoretical (academic) backing.

3.5 Possible training methods and incentives

We have a multitude of possible training methods/options which could be applied individually, in series or in parallel depending on needs and specific situations. The content of Table 4 reflects the intensity of support of each option as perceived by the relevant leaders/heads of components. The support rating was calculated as the average (arithmetic mean) of individual ratings according to a 4-point scale with "4" as the most important/desirable.

TABLE 4: THE IMPORTANCE RATING OF POSSIBLE INPUTS TOWARDS THE IMPROVEMENT OF EXTENSION SKILLS AND OUTPUT:

Education and training option	Desirability rating with "4" as the most desirable*	Ranking with "1" as the most important
• Learnerships through the AgriSETA (Sector Education and Training Authority)	2.66	6
• Board examinations by Learned Societies	2.40	8
• Other forms of specialized examinations (linked to individual ward situations)	2.25	9
• Rewards by employer for additional skills attained	3.30	3
• Formal tertiary institution involvement (e.g. part-time training programmes)	3.77	1
• Mentorship programmes	3.55	2
• A re-evaluation of content and mix of Diploma training	2.66	6
• Improvement of language skills (particularly English writing skills)	2.55	7
• Membership of Learned Societies (and presence/participation at their conferences)	2,9	5
• The implementation of the process of Continuing Professional Development (CPD)	3,1	4
*** Expressed as averages (arithmetic means)**		

The results indicate that formal tertiary training such as part-time training programmes by Universities is considered the most likely option to succeed followed (probable simultaneously) by directed mentorship programmes. It would appear that respondents are reasonably satisfied with the content and mix of present diploma training packages. The option of Board Examinations by Learned Societies does not appear to be an option. (Societies are probably not geared to offer and process such examinations.) Should policy makers decide to involve tertiary institutions in such training initiatives and following them up with specialized mentorship programmes involving experienced field staff, the table could be set for a viable and mutually beneficial relationship between academics and field practitioners.

As a follow-up respondents were asked which option would to their mind offer the best chances to succeed and which were the least likely to succeed. The results presented in Table 5 indicate the number of votes cast (responses) per option (with each respondent having a maximum of three votes).

TABLE 5: AN EVALUATION OF TRAINING OPTIONS IN TERMS OF THEIR LIKELIHOOD TO SUCCEED:

Education and Training options	Most likely to succeed*	Least likely to succeed**
• Learnerships through the Agri SETA	0	5
• Board examinations by Learned Societies	0	7
• Other forms of specialized examinations (linked to individual ward situations)	1	3
• Rewards by employer for additional skills attained	5	0
• Formal tertiary institution involvement (e.g. part-time training programmes)	7	0
• Mentorship programmes	4	1
• A re-evaluation of content and mix of Diploma training	1	1
• Improvement of language skills (particularly English writing skills)	1	4
• Membership of Learned Societies (and presence/participation at their conferences)	1	4
• The implementation of a process of Continuing Professional Development (CDP)	6	1

* **The highest count indicates the option most likely to succeed.**
** **The highest count indicates the option least likely to succeed.**

The results presented in Tables 4 and 5 matches when cross-referenced indicating their reliability (i.e. the respondents have put their minds to the questions and can motivate their answers).

The involvement of tertiary institutions linked to mentorship programmes enjoy strong support, while the implementation of a process of Continued Professional Development (CPD) and the consideration of rewards by the employer for additional skills attained also came out strongly**.** Mentorship and CPD are relatively closely linked while monetary rewards would require a reliable method (technique) of performance evaluation. According to background information gathered from respondents it would appear that in 37,5 percent of cases the respective organisations do not apply a ranking system for their extension staff. Other forms of performance evaluation may also be lacking which would make a fully acceptable rewards system difficult to apply. We know however that even tried and trusted performance evaluation systems have been questioned and are not immune to possible "misrepresentations" (at times at considerable cost). The most commonly acceptable and least questionable system of reward would probably be by linking financial reward to the achievement of specific additional academic qualifications and possibly registration to SACNASP and SASAE (which commits the member to sound ethical/professional conduct).

4. SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

The following constitutes a summarized synthesis of findings as expressed by a selected group of managers/leaders from the private and semi-private sectors.

a) Respondents were well experienced and appropriately qualified in the Natural as well as the Extension Science.
b) Membership of professional bodies (learned societies) is heavily skewed towards bodies other than SACNASP and the SASAE**.** Close on 80 percent of respondents belong to eight other scientific societies with a third (33,3 percent) being members of SACNASP and only two respondents (22,2 percent) belonging to the SASAE.
c) Concerted inputs are often required to address qualification shortfalls in the Natural as well as the Extension Sciences. Tertiary training institutions are well positioned to address their needs but may need outside help from experienced field practitioners.
d) The qualification levels of practicing extensionists indicate that just less than one in five (16,3 percent) lack sufficient training in the Natural Sciences to register with SACNASP. The reverse situation applies to extension with just less than one in five (18,8 percent) having had some formal exposure to the extension sciences**.**
e) Extension managers (leaders) generally accepted two years of training in Agricultural Extension to be sufficient while two years (or less) of training in the Natural Sciences was considered insufficient. Asked to evaluate their qualification shortcomings, Agricultural Extension training was regarded as the most serious shortfall.
f) "Communication" is considered as the most important Extension Training module with "Extension philosophy, organization and management", "Leadership and Group Dynamics", "Extension evaluation" and "Program and Project planning" also being ranked as very important/necessary.
g) University training programmes and mentorship arrangements (possibly linked to CPD processes) are considered the most likely to succeed in addressing qualification shortfalls.
h) Compromising the quality of training and education programmes is disadvantageous to the Extensionist but even more so to the disadvantage of the farming clientele.
i) It would appear that a closer and more cordial relationship of the SASAE with the SACNASP enjoys relatively wide support. At this stage it appears to be the only sensible alternative.

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